

CANADIAN GOVERNMENT GUIDELINES
FOR CONSTRUCTION AND
OPERATION OF NORTHERN OIL
AND GAS PIPELINES

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DEPARTMENT OF INDIAN AFFAIRS
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DEPARTMENT OF ENERGY,
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ENVIRONMENT

OTTAWA (June 28, 1972) - The Canadian government's current views on expanded guidelines for the construction and operation of northern oil and gas pipelines were announced jointly today by the Indian Affairs and Northern Development Minister Jean Chrétien, Energy, Mines and Resources Minister Donald S. Macdonald and Environment Minister Jack Davis.

The proposed guidelines deal with the environmental and social implications as well as the concept of enclosing trunk oil and gas pipelines in a transportation "corridor". They are a further elaboration of those announced in August, 1970, by the Minister of Indian Affairs and Northern Development and the Minister of Energy, Mines and Resources.

The government's purpose in expressing these latest views is to give further guidance to industries engaged in research and planning in connection with northern pipelines and to afford the opportunity to northern residents, and all others concerned, to make observations on the expanded guidelines. In particular, the government is ready to sit down with the representatives of the native peoples involved, invite their comments on the proposed guidelines, and reflect these views wherever possible.

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It is the government's intention, after making any such modifications, to bring these expanded guidelines into force on or about December 31, 1972.

The expanded environmental guidelines will provide industry with the specific type of instruction on which a pipeline applicant can provide detailed reports, supported by documented research, when an application is submitted to the government.

The main points of the proposed guidelines are:

- ... The requirements for good engineering practice must be met to ensure that pipelines are constructed and operated in the interests of good environmental management so as to avoid or minimize adverse effects on the terrain, rivers and vegetation, especially that vegetation used by mammals and wildfowl.
- ... While hazards are minimal there must be adequate plans to deal with oil leaks and spills, pipeline rupture and fire including containment and clean-up operations.
- ... An effective plan must be developed for an environmental educational program for field personnel prior to and during the construction phase.
- ... Provision must be made for the preservation or salvage-excavation of archaeological and historical sites.

The 1972 proposed social guidelines emphasize that the government recognizes the concerns of the Indian people of the Territories about the construction and operation of northern pipelines. The government is prepared to discuss, with the Indian people, their land claims and Treaty rights whenever they express their willingness to meet on the matter; any decisions made concerning northern pipelines will be without prejudice to Indian land claims and Treaty rights.

The expanded social guidelines are an elaboration of these issued in 1970. The main points are:

- ... The pipeline applicant must provide advance information on all jobs, including the skills required and anticipated length of employment. There must be provision for upgrading and skill training, and counselling services for those unfamiliar with industrial jobs or wage style living.
- ... Priority placement in jobs shall be given to the native people in accordance with the government's intent to increase employment opportunities for members of disadvantaged minority groups.
- ... Special benefits and allowances shall be the same for residents and non-residents, including housing for operational staff. Orientation will be given to non-residents on the culture and aspirations of native people and, conversely, employees from the Territories will be briefed on the pipeline industry and the work habits and life styles of non-residents.

... Businessmen and organizations will be encouraged to bid on contracts, such as for land clearing, and for the supply of goods and services during the construction and operation of the pipeline.

... Interference with traditional trapping, hunting and fishing areas, where a substantial number of native people earn their livelihood, will be kept to a minimum during the construction and operation of a pipeline.

The government will allow one trunk oil pipeline and one trunk gas pipeline to be built within a transportation "corridor". This control of the pipeline route is required to minimize environmental and social disturbance and to ensure maximum benefits to northern residents and communities.

The government is prepared to receive applications to construct one trunk oil pipeline and one trunk gas pipeline within one of the following broad "corridors" and can commence its review by the end of the year:

- a) Along the Mackenzie Valley region (in a broad sense) from the Arctic coast to the provincial boundary;
- b) Across the northern part of the Yukon Territory, either adjacent to the Arctic coast or through the northern interior region, from the boundary of Alaska to the general vicinity of Fort McPherson, and thus to join the Mackenzie "corridor".

Other main points in the "corridor" concept are:

... Applications for construction of a pipeline must consider the

suitability for a second line nearby and include a comparison of the selected and alternate routes.

... The federal government will identify geographic areas of specific environmental and social concern within the corridor in which restrictions might be imposed or the areas excluded from pipeline construction.

BACKGROUND INFORMATION

CANADIAN GOVERNMENT GUIDELINES FOR CONSTRUCTION AND OPERATION

OF NORTHERN OIL AND GAS PIPELINES

ISSUED AUGUST 13, 1970

On August 13, 1970, Canadian government guidelines for construction and operation of northern oil and gas pipelines were announced jointly by the Honourable J.J. Greene, Minister of Energy, Mines and Resources, and the Honourable Jean Chrétien, Minister of Indian Affairs and Northern Development.

The guidelines related to pipelines tapping oil and gas resources north of the 60th degree of latitude in the Yukon Territory and the Northwest Territories. They established requirements ranging from environmental protection, pollution control and Canadian ownership and participation to training and employment of residents of the north.

The guidelines issued in August, 1970, are as follows:

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1. The Ministers of Energy, Mines and Resources, and Indian Affairs and Northern Development will function as a point of contact between Government and industry, acting as a Steering Committee from which industry and prospective applicants will receive guidance and direction to those federal departments and agencies concerned with the particular aspects of northern pipelines.
2. Initially, only one trunk oil pipeline and one trunk gas pipeline will be permitted to be constructed in the north within a "corridor" to be located and reserved following consultation with industry and other interested groups.
3. Each of these lines will provide either "common" carrier service at published tariffs or a "contract" carrier service at a negotiated price for all oil and gas which may be tendered thereto.
4. Pipelines in the north, like pipelines elsewhere which are within the jurisdiction of the Parliament of Canada, will be regulated in accordance with the National Energy Board Act, amended as may be appropriate.
5. Means by which Canadians will have a substantial opportunity for participating in the financing, engineering, construction, ownership and management of northern pipelines will form an important element in Canadian government consideration of proposals for such pipelines.
6. The National Energy Board will ensure that any applicant for a Certificate of Public Convenience and Necessity must document the research conducted and submit a comprehensive report assessing the expected effects of the project upon the environment. Any certificate issued will be strictly conditioned in respect of preservation of the ecology and environment, prevention of pollution, prevention of

thermal and other erosion, freedom of navigation, and the protection of the rights of northern residents, according to standards issued by the Governor General in Council on the advice of the Department of Indian Affairs and Northern Development.

7. Any applicant must undertake to provide specific programs leading to employment of residents of the north both during the construction phase and for the operation of the pipeline. For this purpose, the pipeline company will provide for the necessary training of local residents in coordination with various government programs, including on-the-job training projects. The provision of adequate housing and counselling services will also be a requirement.

BACKGROUND INFORMATION

EXPANDED GUIDELINES FOR NORTHERN PIPELINES

DORING, BRITISH
COLUMBIA

A second great era of new oil and gas pipeline construction may soon begin in Canada. In the 1950's transcontinental oil and gas pipeline systems were constructed from western Canadian fields east and west across the country and since then these systems have been continually expanded. Now in the 1970's plans are well under way for construction of gas and oil pipelines from the far north southwards to Canadian and United States markets. In anticipation of this new wave of pipeline construction activity, the federal government on August 13, 1970, announced guidelines for the construction and operation of these proposed pipelines. Today expanded proposed guidelines are announced resulting from research that has been carried out since 1970, both by industry and the federal government.

The 1970 guidelines indicated that pipelines would be constructed in a corridor to be located and reserved following consultation with industry and other interested groups. The government has been talking about a Mackenzie Valley corridor for some time which would include, not only a road and one or two pipelines, but also the Mackenzie River waterway system.

On April 28, 1972, the Prime Minister announced the acceleration of the Mackenzie Highway to Inuvik, which will benefit pipeline

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construction in the Mackenzie "Corridor". Discussions have been conducted with the pipeline companies to get their latest thinking on pipeline routes and also meetings have been held with officials of the N.W.T. Government. The results of these talks will help determine the actual routing of the highway between Camsell Bend and Arctic Red River.

The corridor will be kept as narrow as possible, consistent with engineering and environmental requirements, but in some instances it may be several miles wide, perhaps even as much as twenty miles.

The government recognizes the concern of the Old Crow Indians in the northern Yukon that a pipeline could affect the hunting, trapping and fishing. Very strict stipulations would be applied to any pipeline route through the Old Crow area and it is unlikely that a pipeline would be allowed to pass through any portion of the Old Crow Flats, which lie a few miles north of the community of Old Crow.

The Canadian Wildlife Service and the Canadian Fisheries Service have been carrying out extensive research to determine the possible threats to wildlife and fish. Attached is a matrix showing potential threats caused by pipeline construction in northwestern Canada.

Many of the skilled occupations in the construction phase require both a high level of skill and also considerable experience. Newly trained workers would likely start at helper levels.

From 700 to 1,000 native people will be employed out of the total work force of 4,000 to 5,000 workers. At the moment there are approximately 1,500 unemployed male natives between the ages of 14 and 64 years in the Territories. Some of these will prefer to follow their traditional way of life while others will obtain employment in the ancillary activities. The guidelines will ensure that native workers are given every opportunity of employment during the construction and operation of the pipeline.

A special effort is to be made to train and employ native workers, particularly for the operational phase. It is estimated that native people will fill from 75 to 80 per cent of the staff of 125 to 150 employees required to operate and maintain a pipeline at the outset. Eventually there would seem to be no reason why all of these positions could not be filled by native people.

Industry and government will cooperate in the training and employment of native people. The pipeline industry will train a person to work on particular equipment while the government will give training in social skills and provide counselling services. A government agency will perform a job information function and also provide an employment agency service.

Much of the training will not be specific to pipelines but have a broader application. For example, heavy equipment operators, diesel mechanics, and food technicians are in demand by various industries in many different places. Also, at the present, no one

can guarantee that there will not be further pipeline construction in the North after the first one is built. This could provide additional opportunity for continued employment for the natives.

International Labour Organization Convention 111 Article 5 recognizes that all workers at the outset are not equal and that giving extraordinary benefits or advantages to disadvantaged groups does not constitute discrimination against the rest of the labour force. A Canadian Labour Congress memorandum to the government noted the higher levels of unemployment among ethnic and racial groups and made specific mention of promoting active employment as envisaged under Article 5. Accordingly several of the unions that will be involved in the pipeline construction and operation have indicated, in discussions with the government, that priority in employment placement will be given to the native people.

The government is recommending that the pipeline company become thoroughly knowledgeable about the people in the North and the country itself. This will improve labour-management relations and the employers and outside staff will learn how to adapt better to the environment and to adopt some northern techniques.

The guidelines will provide satisfactory environmental protection but this is not guaranteed 100 per cent because there is always the element of risk. Revisions will be made as new knowledge is acquired from the multimillion dollar research program being carried out by the federal government.

The results of the extensive research conducted by government and industry will be used to resolve any conflict of interests between the natives and industry respecting hunting, fishing or trapping. In particularly sensitive areas, the applicant will have to use special precautions during certain seasons and take particular measures to protect the environment.

Detailed studies are being carried out in the Mackenzie Delta so as to predict if, by chance, an oil slick gets into the Delta, with its intricate channel network, the areas that may be affected by a spill.

Research is continuing on the possible effects of an oil spill from a pipeline break. Initial results indicated that, while oil from Norman Wells breaks down readily, the oil from Atkinson Point shows signs of being resistant. The short and long term effects of crude oil spills on ground and water vegetation are being studied as well as the feasibility of detecting oil spills in water by making use of the oil's natural fluorescence. The guidelines stress that the applicant must have contingency plans for any possible pipeline break, including detection, to stop the flow of oil as quickly as possible.

Gas from the pipeline will be made available to communities adjacent to the pipeline but the details of how and to which communities natural gas will be made available have yet to be worked out.

Discovery of gas and oil in the Mackenzie Delta and on the Arctic Islands has given much promise of major resource development.

The markets will be available for all the oil and gas that can be produced provided production and transportation operations meet the economic requirements of competitive marketing. The incentive for northern oil and gas resource development is therefore great and the benefits that will flow from the opening up of Canada's own far north resources will have a multiplying effect throughout the entire economy.

POTENTIAL THREATS TO FISH AND WILDLIFE

Resource	Habitat Alteration	Disturbance	Facilitated Harvest	Pollution Hazard
Aquatic birds (incl. waders)	damage to habitat by drainage, impoundment, silting, removal of materials	heavy ground or aerial traffic during nesting or raising of young		oil on beaches or on water killing birds or their food organisms
Barren-ground caribou	-	deflection of annual movements by construction or thereafter by inappropriately constructed line. harassment	roadways and air-strips allowing uncontrollable hunter access	
Dall sheep	damage to small but critical ranges	harassment	roadways and air-strips allowing uncontrollable access. poaching of trophy heads	-
Moose	damage to small but critical ranges	-	roadways opening access to critical ranges	-
Arctic Fox	-	concentration and control at garbage dumps	-	oil on beaches fouling fur
Grizzly bear	-	concentration and control at garbage dumps	poaching by air-borne personnel	-

POTENTIAL THREATS

Resource	Habitat Alteration	Distrubance	Facilitated Harvest	Pollution Hazard
Boreal fur-bearers	damage to habitat by impoundment, silting	-	-	oil flooding marshes or channels fouling fur
Falcons	removal of nesting sites for land-fill	harassment during nesting and raising of young	poaching for black market	-
Fish	removal of gravel, siltation of spawning areas	-	improved access to resource	oil damaging physical habitat or toxic effects on food organisms

Matrix showing potential threats to fish and wildlife entrainable by pipeline construction in northwestern Canada.

BACKGROUND INFORMATION

PIPELINE RESEARCH IN INDUSTRY

The pipeline guidelines issued in August, 1970, stated in part "The National Energy Board will ensure that any applicant for a Certificate of Public Convenience and Necessity must document the research conducted and submit a comprehensive report assessing the expected effects of the project upon the environment". This includes preservation of the ecology and environment, prevention of pollution, prevention of thermal and other erosion, freedom of navigation, and the protection of the right of northern residents. The guidelines also stipulated specific programs must be carried out leading to employment of residents of the north, both during the construction phase and for the operation of the pipeline.

Gas Arctic Systems Study Group, Northwest Project Study Group and Mountain Pacific Pipeline Limited have all been carrying out research on a large diameter pipeline to carry gas from Prudhoe Bay and the Canadian Arctic to the potential markets in Canada and the United States.

The groups have studied various possible routes including intensive examination of the effect on the ecology and environment. They have investigated the effect of the pipeline, both during the construction and operation phases, on the wildlife in the Arctic, especially with regards to the possible effects on caribou migration routes and big game animals which live in the general area of a pipeline route. They have also considered small animals, especially the lemmings or voles which are the base of the carnivore food chain.

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They have paid considerable attention to the effect of construction activity on the terrain surface. This includes different areas where there is either high or low ice content in the permafrost. All groups have studied methods of achieving restoration of the disturbed soil cover, including complete revegetation, in conjunction with studies on the present vegetation.

The plans of the three groups has included research on the sociologic, economic and cultural problems of the northern residents. The biggest problem will be the change from the resident's current mode of living, many of whom live on a hunting and trapping subsistence, to a wage economy. The effect of the construction vs the operation phases is requiring extensive research as up to 5,000 people will be working during the construction phase lasting over a three-year period compared to about 150 actually employed in the operation of the pipeline. However many others will obtain permanent employment in ancillary support and service industries as well as in anticipated gas producing operations in the north.

Test sites for the actual large diameter pipes have been located in areas where there is continuous permafrost and also in other locations where the permafrost is discontinuous. Pipes have been buried in a conventional manner at these sites as well as in a half-buried shallow trench with soil cover forming a "berm". These test sites have been in almost continuous use since they started operating which has facilitated assessment of immediate effects on the surface. The groups have attempted to determine a quantitative measurement of heat transfer to provide basic functions for mathematical analytical technique for a long range prediction of the Arctic soil behavior.

The Mackenzie Valley Pipeline Research Limited installed 2,000 feet of 48-inch test pipeline at Inuvik, and oil at 160° has been circulating through it since March, 1970. Sections of the pipe have been buried and covered with a gravel berm while other sections have been built on piles. The proposed oil pipeline route would include some sections which, because of high ice content soil, will require an elevated insulated line, but these sections would not be more than 20 miles maximum each. The remainder of the line would be buried.

The group has investigated, the same as by the gas study groups, the effects on the ecology and environment. This includes studies for an oil spill contingency plan with emphasis on prevention through pressure control and early automatic detection.

BACKGROUND INFORMATION
MERGER OF PIPELINE CONSORTIUM

NORTHERN NATURAL GAS
SYSTEM

On June 14, 1972, two pipeline consortiums that have been studying the transportation of natural gas from Northern Canada and Alaska to southern markets merged to become the Gas Arctic-Northwest Project Study Group.

The two groups were the Gas Arctic Systems Study Groups and the Northwest Project Study Group. Four new partners also joined the merger.

The Study Group is composed of:

Alberta Gas Trunk system

Canadian National Railways

Columbia Gas System Inc, Wilmington, Del.

Northern Natural Gas Co., Omaha, Neb.

Pacific Lighting Corp., Los Angeles

Trans-Canada Pipeline Ltd., Toronto

Atlantic Richfield Co., New York

Standard Oil Co. (Ohio), Cleveland

Natural Gas Pipeline Co. of America, Chicago

The new partners are:

Canadian Pacific Investments Ltd., Montreal

Gulf Oil Canada Ltd., Toronto

Imperial Oil Ltd., Toronto

Shell Canada Ltd., Toronto

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The third consortium that has been studying the transportation of natural gas is Mountain Pacific. Participants in the group are:

Mountain Pacific Pipeline Ltd., Calgary

Canadian Bechtel Ltd., Vancouver

El Paso Natural Gas Co., El Paso, Tex.

Southern California Edison Co., Los Angeles

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